EDITORIALS

Alternative Methods of Health Care

IN THIS ISSUE the editors present several papers addressing the humanistic medicine and holistic health movement, its meaning and relationships to orthodox medicine. These papers are intended to begin a forum that will continue for several issues. No attempt was made to list or to describe the many and varied activities which have found or seek a place within these concepts. Rather the papers are by persons considered to be knowledgeable in some of the broader aspects of the subjects, who also have familiarity with orthodox or allopathic medicine.

It will be noted that all of these first papers originated in California. A perusal of a compendium of resources for persons interested in this growing movement[1] indicates that there has been far more interest in these "alternative" methods of health care in California than almost anywhere else, although there is good evidence that this interest has begun to spread throughout the West and elsewhere. It is hoped that as responses come in from other states, they will be as well represented as California in the forum as it develops.

It is easy to dismiss movements such as this as being mostly unscientific quackery practiced by charlatans whose primary purpose is personal gain. To some extent this may indeed be the case, but it may not be wholly so. The quackery aspects of the subject, whatever they may be, are only lightly touched upon in this series of papers. Rather the focus is more upon the meaning of what is occurring and what might be its importance for medicine, for patient care, and for improving the health and well-being of mankind in this interdependent world. No doubt much will be added and many things will be rounded out by further comments from readers and others.

—MSMW

REFERENCE

1. The Holistic Health Handbook—Compiled by the Berkeley Holistic Health Center. Berkeley, CA, And/Or Press, 1978

Treatment of Cardiac Arrhythmias

ELSEWHERE IN THIS ISSUE appears a Medical Staff Conference on the treatment of cardiac arrhythmias. The subject is both important and timely, in large measure because disturbances of cardiac rhythm constitute a major cause of morbidity and mortality from cardiovascular disease. No single area of basic or clinical cardiovascular investigation has received greater emphasis within the last five years. As a consequence of those investigations, most of us feel that we are on the threshold of a major breakthrough in treatment, to which medical and surgical approaches will contribute importantly. There are five presentations in this conference, covering physiology, pharmacology, medical evaluation, medical treatment and surgical treatment. The contributors and their subjects represent the views of the continuum of investigators in their field. The authors have presented the positive side of the information and balance. I will highlight a few of those points, but also identify certain areas in each category where there are gaps in our information and where more investigation is necessary.

Emphasis has been placed in the last ten years on the application of microelectrode studies to understanding the action potential, differences between various regions of the heart and the ionic basis for the action potential. Many data that contribute to our understanding of normal impulse formation and conduction are available. In contrast, we know very little about the effects of disease on electrical properties of the cardiac cell and on the nature of couplings between cells that determine their electrophysiologic characteristics. Certainly, one of the new frontiers in cardiac electrophysiology will be the systematic and careful analysis of the action potential and membrane properties of diseased human tissues. Without this information we are not likely to have a firm foundation on which to understand the basis of alterations of rhythm in man.

Physiologists and pharmacologists have adapted methods developed for nerve studies to the study of heart muscle. They have used these methods to gain insights regarding the changes of membrane conductance that are responsible for the action potential and alterations of membrane conductance occurring as a consequence of cardiac drugs. We are already at a stage in which antiarrhythmic drugs have been classified on the basis of their effects on the action potential and membrane conductance and we are moving in the direction of finding drugs that are more and more specific in their effects on selective membranes. The practical goal of developing new drugs is to increase the number of effective agents that are available for the treatment of alterations of rhythm in man. An intellectual application of this information is based on the concept that the effective use of drugs that have a highly specific action will ultimately help to clarify the mechanisms of arrhythmias in man.

Despite the logic of this approach there are certain shortcomings that should be recognized. First, the methods that have been used so successfully in nerve studies to define membrane conductance have serious shortcomings when applied to cardiac muscle. Consequently, we are not able to be completely confident in the conclusions that have been derived from such studies. A second important point is that most of the antiarrhythmic agents that are used effectively in man today appear to have more than one action on excitable cells. Which of these actions is the one responsible for the antiarrhythmic effect in any given situation is uncertain. Until we have an understanding of the effects of disease on human cardiac tissues, it may prove hazardous to extrapolate from studies of the effects of pharmacologic agents on normal tissues to their effects on abnormal tissues. The pharmacology of diseased tissue will be a second frontier in future electrophysiologic investigations.

The ability to record electrical signals from a cavity of the heart and from the specialized conduction system has contributed importantly to our understanding of cardiac arrhythmias in man. Using this technique we can understand sinus node and atrioventricular node function, intraatrial and interatrial conduction, and intraventricular and interventricular conduction during disturbances of cardiac rhythm. These techniques have proved especially useful in evaluating pathophysiology and the response to treatment of patients with supraventricular tachycardia, the Wolff-Parkinson-White syndrome and ventricular tachycardia. The shortcomings of these techniques are essentially the shortcomings of any modeling experiment. Catheter studies are based on recording extracellular potentials from selected sites and evaluating their response during normal rhythm and abnormal rhythms and after an electrical stimulus. The interpretation of an electrophysiologic study is based on assumptions regarding the relationship between the extracellular waveform and intracellular events and on the behavior of the system that is being studied. For example, we record the input and the output from the atrioventricular node on a typical His bundle electrogram, but the interpretation of what happens between the atrial and His bundle signals is based almost entirely on theories regarding the behavior of the atrioventricular node.

Catheter studies have contributed to our understanding of a host of disturbances of cardiac rhythm. At each step, however, the interpretation of the studies is only as good as the underlying information derived from more sophisticated studies. For example, for some time it was felt that any form of reentrant tachycardia initiated by a premature atrial beat that fell in the relative refractory period of the atrioventricular node must be attributable to atrioventricular nodal reentry. We now know that that is not the case and that accessory pathways that conduct in the retrograde direction account for a significant percentage of such events. For many years we felt that initiation of a regular tachycardia by premature stimulation defined a reentrant arrhythmia. We now know that that is not the case. There is the phenomenon of triggerable automaticity. It will be vitally important in years ahead to maintain a close relationship between basic and applied clinical electrophysiology to assure that the concepts derived from basic studies are incorporated into the models that are used for the interpretation of clinical studies.

Probably the first form of surgical treatment used to correct disturbances of cardiac arrhythmias was the successful use of thoracic sympathectomy by Smithwick and his colleagues more than 40 years ago to treat atrial and ventricular tachycardia. Surgical procedures played such a vital role in the development and application of pacemakers that pacemaker treatment should also be included in a review of surgical treatment of alteration of rhythm and conduction. The issue

that has been introduced in this month's symposium is the concept of specific ablative procedures designed to eliminate the tissues responsible for cardiac arrhythmias in man and hence to assure a normal and stable cardiac rhythm. This field of interest developed about 12 years ago with the first successful treatment of a patient with the Wolff-Parkinson-White syndrome by dividing the accessory pathway. Subsequent to that report surgical treatment of this syndrome has been developed to a high degree of sophistication. It is widely applicable and for all practical purposes uniformly successful. It brought the electrophysiologists to the operating room and resulted in the development of much more sophisticated mapping techniques. With the availability of these techniques surgical treatment of arrhythmias has been extended to other forms of atrial tachycardia, atrioventricular nodal tachycardia and ventricular tachycardia. In each of these areas enough successes have been reported to indicate the feasibility of this approach and to suggest that further development of methods for surgical treatment of many forms of cardiac arrhythmias is desirable.

Here again, certain problems can be anticipated. Not all arrhythmias inducible in the catheterization laboratory are induced with equal ease or at all under anesthesia. In my judgment the anesthesiologist will become the next important member of the team for the study of disturbances of cardiac rhythm in man. Together with surgeons, cardiologists and pharmacologists, anesthesiologists must develop techniques to assure that arrhythmias that occur in awake patients can also be precipitated in anesthetized patients for purposes of study.

A second problem involves the mapping technique itself. It is remarkable that we have gained as much insight into the electrical activation of the heart as we have with available mapping techniques. We were extremely fortunate in studying the Wolff-Parkinson-White syndrome, that mapping could be done repeatedly, with a stable rhythm and in patients who were basically healthy and tolerated the arrhythmia well. This is not the situation in ventricular tachycardia. In this situation all of the necessary information is not likely to come from epicardial maps. Transmural recordings will also be necessary. Computer techniques will be necessary to facilitate the acquisition and interpretation of data. Particularly in the area of ischemic heart disease it seems highly probable that the regions responsible for arrhythmias are deep in the epicardial structures and in some instances within the septum. These considerations make mapping and the interpretation of maps within the framework of a cardiac surgical procedure much more complex.

A third problem involves surgical risk. In patients with the Wolff-Parkinson-White syndrome, who are usually healthy except for their arrhythmia, mapping techniques are relatively simple and the surgical procedures aimed at correcting the disturbance are relatively nondestructive. As a consequence, operative risk is low and surgical success is high. As we move into the application of surgical techniques to the treatment of more complex arrhythmias, other hurdles must be overcome. These procedures are being carried out on patients who have serious forms of heart disease and alterations in cardiac performance including congestive heart failure. The surgical operation is long and complex and some of the approaches described in this conference involve rather extensive dissections of ventricular tissue with uncertain effects on global left ventricular function. How far we can go in the direction of more extensive surgical procedures on progressively sicker patients remains to be determined.

From an internist's point of view, I think we recognize that all forms of cardiac surgical treatment involve some acute impairment of cardiac function as a consequence of anesthesia, manipulation and cardiopulmonary bypass. This is balanced by the direct improvements that can be expected as a consequence of the surgical procedure. This balance of effects is true whether we are talking about valvular heart disease, congenital heart disease, coronary bypass operations or the treatment of arrhythmias.

Most patients who are potential candidates for operations to correct ventricular arrhythmias have seriously deranged ventricular function. I believe that the emphasis in the next several years will be on developing mapping techniques that shorten the time required to obtain the necessary information about the arrhythmias and that maximize the value of the data for localizing tissue that is critical to the mechanism of the arrhythmia. In parallel with this, dissection and other less invasive techniques such as cryoablation will be explored so that the ablative procedure itself is short and has minimal effects on cardiac function. These will be important steps if we are to reach the potential of applying surgical techniques to

the treatment of serious disturbances of rhythm in patients with seriously compromised ventricular function.

The contributors of this conference have gone a long way in highlighting the state of the art and in identifying the directions we need to take to fully capitalize on the potential of improved physiologic understanding, better pharmacologic agents and the application of surgical techniques to the management of disturbances of cardiac rhythm.

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Responsibility for Health

ELSEWHERE IN THIS ISSUE is a report from Altrocchi on the purported success of the People's Republic of China (PRC) in improving that vast nation's health by emphasizing that health is the individual responsibility of each citizen and commune. There seems to be no doubt that considerable has been accomplished, although the evidence and the data are admittedly still limited. Also in this issue are several papers that examine the concept of holistic health as it is developing in the western world. The holistic health concept also places substantial responsibility for health upon the individual person and somewhat upon the community. As is so often the case with the Orient and the Occident, there are both similarities and differences.

It is likely that the similarities are more apt to pertain to truth and the differences are more apt to pertain to method or approach. The truth may be that medical science and technology are inadequate in themselves to assure health, although they may have much to offer when health is impaired—particularly if seriously so. This view seems to have been accepted by the PRC and is beginning to be recognized here, where the emphasis on individual responsibility for health and wellness appears to be growing. However, Eastern and Western approaches are clearly different and reflect the form of government in each of two great nations. In the PRC the approach is essentially dictated by a central government authority. Here, on the other hand, what we are calling the holistic approach is essentially outside the establishment of medicine and health care, although there are beginning to be some important initiatives in both the public and private sectors.

In conclusion, it may be that the responsibility for health is diffused among individual persons, communities of persons, their governments and the medical profession—which, individually and collectively, is the custodian of our knowledge of the science and technology of medicine and health care. If there is to be health for all on this planet this responsibility, diffuse as it is, must be shared among all of these, whatever the political approach. And the medical profession should always be in a role of leadership—*docere.*

—MSMW

Acne—Fact and Folklore

IN THIS ISSUE of the journal, Dr. David A. Whiting presents a Clinical Review of acne.

Acne is no longer a mysterious disease. Much is known about its pathogenesis, especially the roles of sebum and the renowned acne bacillus, Propionibacterium acnes, denizen of the deep recesses of sebaceous follicles.

A multitude of products produced by this organism—chemical toxins, enzymes, activators of the immune system, leukotactic factors and so forth—convert simple comedones into raging, inflammatory lesions ranging from pustules to big, baggy nodules.

Informed physicians (far too few at present, including some backward-looking dermatologists) have powerful resources for curbing the disease. While cure is impossible, the vivid inflammatory lesions which scar the soul and the skin, can be kept under submission until time, in some unknown way, effects its cure.

An elementary knowledge of the way in which the disease evolves is all that is required to select appropriate therapy. Acne is a two-stage process. It begins with a comedo, an impaction of horny cells which distends the follicle, finally protruding through the orifice as a solid, pigmented, cylinder of horn. Preventing comedones from forming stops the disease at its inception and is the ideal prophylactic treatment. Vitamin A acid is a potent topical anticomedonal agent which prevents horny cells from sticking so tightly together, thereby